

What is claimed is:

1 1. A structured image data processing method that processes data including (i)
 2 structured image data composed of document-image data and corresponding
 3 positioning data, and (ii) region data indicating a structure of the document-image
 4 data, the processing method comprising the steps of:

5 a) determining a region to be divided of the document-image data according
 6 to predetermined dividing information;

7 b) dividing the document-image data into plural portions according to the
 8 region to be divided;

9 c) processing individually the portions of the document-image data; and

10 d) renewing the structured image data by replacing the positioning data and
 11 the document-image data before processing with positioning data and document-
 12 image data after processing.

1 2. The structured image data processing method of claim 1, wherein the
 2 dividing information includes data that affect a difference between the document-
 3 image data after a color-reducing process and the document-image data before the
 4 color-reducing process so that the difference is smaller than a predetermined value.

1 3. The structured image data processing method of claim 1, wherein the
 2 dividing information includes score data added to at least one of the positioning
 3 data and the region data.

1 4. The structured image data processing method of claim 1, wherein the
 2 dividing information includes (i) score data, (ii) a transmit capacity of a
 3 transmitting path for transmitting the structured image data, and (iii) an user's
 4 request, which are added to at least one of the positioning data and the region data

1 5. A structured image data processing method that processes data including (i)
 2 structured image data composed of document-image data and corresponding
 3 positioning data, (ii) region data indicating a structure of the document-image data,
 4 and (iii) replaced media dividing information added to the region data, the
 5 processing method comprising the steps of:

6 a) determining a region to be divided of the document-image data according
 7 to the region to be divided;

8 b) dividing the document-image data into plural portions according to the
9 replaced media dividing information;

10 c) replacing the document-image data divided according to the replaced
11 media dividing information that is added to the region data corresponding to the
12 divided document image; and

13 d) renewing the structured image data by replacing the positioning data, the
14 document-image data, and the replaced media dividing information.

1 6. The structured image data processing method of claim 5, wherein the
2 replaced media dividing information is formed by text data added to a region.

1 7. A structured image data processing method that processes data including
2 first input data composed of (i) first structured image data containing first
3 document-image data and corresponding positioning data, and (ii) first region data
4 indicating a structure of the first document-image data by regions; and second
5 input data composed of (i) second structured image data containing second
6 document-image data and corresponding positioning data, and (ii) second region
7 data indicating a structure of the second document-image data by regions, the
8 processing method comprising the steps of:

9 a) determining a region to be divided of the first input data as a region to be
10 renewed, referring to the second input data;

11 b) dividing the first document-image data into plural portions according to
12 the region to be divided;

13 c) renewing the divided structured image data of the first input data; and

14 d) combining the renewed first structured image data with the second
15 structured image data.

1 8. A structured image data processing method that processes data including
2 first input data composed of (i) first structured image data containing first
3 document-image data and first positioning data, (ii) first region data indicating a
4 structure of the first document-image data by regions, and (iii) first score data
5 added to at least one of the first positioning data and the first region data; and
6 second input data composed of (i) second structured image data containing second
7 document-image data and second positioning data, (ii) second region data

3 data and region data.

1 12. The apparatus for the structured image data processing of claim 9, wherein
2 the dividing information includes (i) score data, (ii) a transmit capacity of a
3 transmitting path for transmitting the structured image data, and (iii) an user's
4 request, which are added to at least one of the positioning data and the region data.

1 13. The apparatus for the structured image data processing that processes data
2 including (i) structured image data composed of document-image data and
3 corresponding positioning data, (ii) region data indicating a structure of the
4 document-image data, and (iii) replaced media dividing information added to the
5 region data, the apparatus comprising:

6 a) divided region determining means for determining a region to be divided
7 of the document-image data according to the replaced media dividing information;

8 b) image-dividing means for dividing the document-image data into plural
9 portions according to the region to be divided;

10 c) replacing means for replacing the divided document-image data with the
11 replaced media dividing information that is added to the region data corresponding
12 to the divided document image; and

13 d) structured image renewal means for renewing the structured image data
14 by replacing the positioning data, the document-image data, and the replaced
15 media dividing information.

1 14. The apparatus for the structured image data processing of claim 13,
2 wherein the replaced media dividing information is formed by text data added to a
3 region.

1 15. An apparatus for a structured image data processing that processes data
2 including first input data composed of (i) first structured image data containing
3 first document-image data and corresponding positioning data, and (ii) first region
4 data indicating a structure of the first document-image data by regions; and second
5 input data composed of (i) second structured image data containing second
6 document-image data and corresponding positioning data, and (ii) second region
7 data indicating a structure of the second document-image data by regions, the
8 apparatus comprising:

9 a) divided region determining means for determining a region to be divided
10 of the first input data as a region to be renewed, referring to the second input data;

11 b) image-dividing means for dividing the first document-image data into
12 plural portions according to the region to be divided;

13 c) structured image data renewal means for renewing the divided structured
14 image data of the first input data; and

15 d) structured image data composition means for combining the renewed first
16 structured image data with the second structured image data.

1 16. An apparatus for a structured image data processing that processes data
2 including first input data composed of (i) first structured image data containing
3 first document-image data and first positioning data, (ii) first region data indicating
4 a structure of the first document-image data by regions, and (iii) first score data
5 added to at least one of the first positioning data and the first region data; and
6 second input data composed of (i) second structured image data containing second
7 document-image data and second positioning data, (ii) second region data
8 indicating a structure of the second document-image data by regions, and (iii)
9 second score data added to at least one of the second positioning data and the
10 second region data, the apparatus comprising:

11 a) score-attached divided region determining means for determining a score-
12 attached region to be divided of the first input data as a region to be renewed,
13 referring to the second input data;

14 b) image-dividing means for dividing the first document-image data into
15 plural portions according to the region to be divided;

16 c) structured image data renewal means for renewing the divided structured
17 image data of the first input data; and

18 d) score-attached structured image data composition means for combining
19 the renewed first structured image data with the second structured image data,
20 using the first and the second score data.

1 17. A computer program product for a structured image data processing that
2 processes data including (i) structured image data composed of document-image
3 data and corresponding positioning data, and (ii) region data indicating an inner

- 4 structure of the document-image data, the program product comprising:
- 5 a) a program code for determining a region to be divided of the document-
6 image data according to predetermined dividing information;
- 7 b) a program code for dividing the document-image data into plural portions
8 according to the region to be divided;
- 9 c) a program code for processing individually the portions of the document-
10 image data; and
- 11 d) a program code for renewing the structured image data by replacing the
12 positioning data and the document-image data before processing with positioning
13 data and document-image data after processing.

1 18. The computer program product for the structured image data processing of
2 claim 17, wherein the dividing information includes data that affect a difference
3 between the document-image data after a color-reducing process and the
4 document-image data before the color-reducing process so that the difference is
5 smaller than a predetermined value.

1 19. The computer program product for the structured image data processing of
2 claim 17, wherein the dividing information includes score data added to at least
3 one of the positioning data and the region data.

1 20. The computer program product for the structured image data processing of
2 claim 17, wherein the dividing information includes (i) score data, (ii) a transmit
3 capacity of a transmitting path for transmitting the structured image data, and (iii)
4 an user's request, which are added to at least one of the positioning data and the
5 region data.

1 21. A computer program product for a structured image data processing that
2 processes data including (i) structured image data composed of document-image
3 data and corresponding positioning data, (ii) region data indicating an inner
4 structure of the document-image data, and (iii) replaced media dividing
5 information added to the region data, the program product comprising:

- 6 a) a program code for determining a region to be divided of the document-
7 image data according to the replaced media dividing information;
- 8 b) a program code for dividing the document-image data into plural portions

9 according to the region to be divided;

10 c) a program code for replacing the divided document-image data with the
11 replaced media dividing information added to the region data corresponding to the
12 divided document image; and

13 d) a program code for renewing the structured image data by replacing the
14 positioning data, the document-image data, and the replaced media dividing
15 information.

1 22. The computer program product for the structured image data processing of
2 claim 21, wherein the replaced media dividing information is formed by text data
3 added to a region.

1 23. A computer program product for a structured image data processing that
2 processes data including first input data composed of (i) first structured image data
3 containing first document-image data and corresponding positioning data, and (ii)
4 first region data indicating a structure of the first document-image data by regions;
5 and second input data composed of (i) second structured image data containing
6 second document-image data and corresponding positioning data, and (ii) second
7 region data indicating a structure of the second document-image data by regions,
8 the program product comprising:

9 a) a program code for determining a region to be divided of the first input
10 data as a region to be renewed, referring to the second input data;

11 b) a program code for dividing the first document-image data into plural
12 portions according to the region to be divided;

13 c) a program code for renewing the divided structured image data of the first
14 input data; and

15 d) a program code for combining the renewed first structured image data
16 with the second structured image data.

1 24. A computer program product for a structured image data processing that
2 processes data including first input data composed of (i) first structured image data
3 containing first document-image data and first positioning data, (ii) first region
4 data indicating a data structure of the first document-image data by regions, and
5 (iii) first score data added to at least one of the first positioning data and the first

6 region data; and second input data composed of (i) second structured image data
7 containing second document-image data and second positioning data, (ii) second
8 region data indicating a data structure of the second document-image data by
9 regions, and (iii) second score data added to at least one of the second positioning
10 data and the second region data, the program product comprising:

11 a) a program code for determining a region to be divided of the first input
12 data as a region to be renewed, referring to the second input data;

13 b) a program code for dividing the first document-image data into plural
14 portions according to the region to be divided;

15 c) a program code for renewing the divided structured image data of the first
16 input data; and

17 d) a program code for combining the renewed first structured image data
18 with the second structured image data, using the first and the second score data.